

## Algorithms and Static data structures

### Practical Work 3

November 2024

#### Exercise 1: Basic Calculator

- **Objective:** Create a simple calculator that performs basic arithmetic operations (addition, subtraction, multiplication, division) based on user input.
- **Requirements:**
  - Prompt the user to enter two numbers.
  - Ask for the operation (+, -, \*, /).
  - Use switch statements to perform the appropriate calculation.
  - Handle division by zero gracefully.
- **Example Output:**

```
Enter first number: 10
Enter second number: 5
Enter operation (+, -, *, /): /
Result: 2
```

#### Exercise 2: Simple Banking System

- **Problem Statement:** Create a simple banking system program in C that allows a user to create an account, deposit money, withdraw money, and check the balance using a menu-driven approach without using functions.
- **Requirements:**
  1. **Account Details:** Store the account number, and balance.
  2. **Menu Options:**
    - Create Account
    - Deposit Money
    - Withdraw Money
    - Check Balance
    - Exit

## Exercise 3: Multiplication Table

- **Problem:** Write a program that displays the multiplication table of a number entered by the user.
- **Input:** The user inputs a number (e.g., 5).
- **Output:** Display the multiplication table for that number.
- **Example:**
  - Input: 5 → Output:

$$5 \times 1 = 5$$

$$5 \times 2 = 10$$

$$5 \times 3 = 15$$

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